

**IN THE CLAIMS:**

Please cancel Claims 43-71, and substitute therefor new Claims 72-83.

Claims 1-42 (Previously Canceled)

Claims 43-71 (Canceled)

72. (New) A method of providing hazardous incident decision support and training, comprising:

acquiring observed signs and symptoms data from a user interface, wherein said data is input by a user to describe a given situation or condition which may or may not be associated with a hazardous incident;

acquiring agent characteristic data from records in a database, wherein each record includes data representative of a known hazardous agent; and

performing an initial agent identification by comparing the observed signs and symptoms acquired from the user interface with the agent characteristics data for each record in the database, wherein said performing an initial agent identification by comparing the observed signs and symptoms acquired from the user interface with the agent characteristics data for each record in the database comprises using the following algorithm: Agent Identification =  $\text{Max} [W_1 \cdot (\text{number of matched Signs}) + W_2 \cdot (\text{number of matched Symptoms}) + W_3 \cdot (\text{number of matched Times-of-Onset}) - W_4 \cdot (\text{number of Mismatches})]$ , wherein W represents the relative weights given to corresponding matches or mismatches, and Max represents a process in which the result or score obtained from applying the foregoing algorithm to each record in said database is evaluated to determine the record with the greatest numerical value.

73. (New) The method of claim 72, wherein said observed signs data includes one or more of color, odor, chemical reaction, dispersion devices, explosive event, property damage, dead animals, or absence of signs, and wherein said observed symptoms data includes one or more of nausea, headache, tunnel vision, chest pain, vomiting, runny nose, reddish skin, or absence of symptoms.

74. (New) A method of providing hazardous incident decision support and training, comprising:

acquiring observed signs and symptoms data from a user interface, wherein said data is input by a user to describe a given situation or condition which may or may not be associated with a hazardous incident;

acquiring agent characteristic data from records in a database, wherein each record includes data representative of a known hazardous agent; and

performing an initial agent identification by comparing the observed signs and symptoms acquired from the user interface with the agent characteristics data for each record in the database, wherein said performing an initial agent identification by comparing the observed signs and symptoms acquired from the user interface with the agent characteristics data for each record in the database comprises using the following algorithm: Agent Identification = Max  $[W_1 \cdot (\text{number of matched Signs}) + W_2 \cdot (\text{number of matched Symptoms}) + W_3 \cdot (\text{number of matched Times-of-Onset}) - W_4 \cdot (\text{number of Mismatches}) + W_5 \cdot (\text{Sensor Input}) + W_6 \cdot (\text{Sampling Data})]$ , wherein W represents the relative weights given to corresponding matches or mismatches, and Max represents a

process in which the result or score obtained from applying the foregoing algorithm to each record in said database is evaluated to determine the record with the greatest numerical value.

75. (New) The method of claim 74, wherein said observed signs data includes one or more of color, odor, chemical reaction, dispersion devices, explosive event, property damage, dead animals, or absence of signs, and wherein said observed symptoms data includes one or more of nausea, headache, tunnel vision, chest pain, vomiting, runny nose, reddish skin, or absence of symptoms.

76. (New) A method of providing hazardous incident decision support and training, comprising:

- acquiring observed signs and symptoms data from a user interface, wherein said data is input by a user to describe a given situation or condition which may or may not be associated with a hazardous incident;

- acquiring agent characteristic data from records in a database, wherein each record includes data representative of a known hazardous agent; and

- performing an initial agent identification by comparing the observed signs and symptoms acquired from the user interface with the agent characteristics data for each record in the database, wherein said performing an initial agent identification by comparing the observed signs and symptoms acquired from the user interface with the agent characteristics data for each record in the database comprises using the following algorithm: Agent Identification = Max  $[W_1 \cdot (\text{number of matched Signs}) + W_2 \cdot (\text{number of matched Symptoms})]$

of matched Symptoms) +  $W_3 \cdot (\text{number of matched Times-of-Onset}) - W_4 \cdot (\text{number of Mismatches}) + W_5 \cdot (\text{Sensor Input}) + W_6 \cdot (\text{Sampling Data}) + W_7 \cdot (\text{Time Data}) + W_8 \cdot (\text{Intelligence}) + W_9 \cdot (\text{Number of Casualties}) + W_{10} \cdot (\text{Distribution of Casualties}) + W_{11} \cdot (\text{MET Data})$ ], wherein  $W$  represents the relative weights given to corresponding matches or mismatches, and  $\text{Max}$  represents a process in which the result or score obtained from applying the foregoing algorithm to each record in said database is evaluated to determine the record with the greatest numerical value.

77. (New) The method of claim 76, wherein said observed signs data includes one or more of color, odor, chemical reaction, dispersion devices, explosive event, property damage, dead animals, or absence of signs, and wherein said observed symptoms data includes one or more of nausea, headache, tunnel vision, chest pain, vomiting, runny nose, reddish skin, or absence of symptoms.

78. (New) A system for providing hazardous incident decision support and training, comprising:

- a user interface component operative to receive a situation definition, wherein the user interface component is operative to receive observed signs and symptoms data;

- a clock; and

- a time-dependent hazard assessment component responsive to the situation definition and clock, wherein the time-dependent hazard assessment component includes a database of signs and symptoms representative of known agents, and a comparator operative to compare the observed signs and symptoms data obtained from the user

interface with the database of signs and symptoms representative of known agents to perform an agent identification, and wherein said comparator uses an algorithm selected from the group consisting of: (a) Agent Identification =  $\text{Max} [W_1 \cdot (\text{number of matched Signs}) + W_2 \cdot (\text{number of matched Symptoms}) + W_3 \cdot (\text{number of matched Times-of-Onset}) - W_4 \cdot (\text{number of Mismatches})]$ , wherein  $W$  represents the relative weights given to corresponding matches or mismatches, and  $\text{Max}$  represents a process in which the result or score obtained from applying the foregoing algorithm to each record in said database is evaluated to determine the record with the greatest numerical value; (b) Agent Identification =  $\text{Max} [W_1 \cdot (\text{number of matched Signs}) + W_2 \cdot (\text{number of matched Symptoms}) + W_3 \cdot (\text{number of matched Times-of-Onset}) - W_4 \cdot (\text{number of Mismatches}) + W_5 \cdot (\text{Sensor Input}) + W_6 \cdot (\text{Sampling Data})]$ , wherein  $W$  represents the relative weights given to corresponding matches or mismatches, and  $\text{Max}$  represents a process in which the result or score obtained from applying the foregoing algorithm to each record in said database is evaluated to determine the record with the greatest numerical value; and (c) Agent Identification =  $\text{Max} [W_1 \cdot (\text{number of matched Signs}) + W_2 \cdot (\text{number of matched Symptoms}) + W_3 \cdot (\text{number of matched Times-of-Onset}) - W_4 \cdot (\text{number of Mismatches}) + W_5 \cdot (\text{Sensor Input}) + W_6 \cdot (\text{Sampling Data}) + W_7 \cdot (\text{Time Data}) + W_8 \cdot (\text{Intelligence}) + W_9 \cdot (\text{Number of Casualties}) + W_{10} \cdot (\text{Distribution of Casualties}) + W_{11} \cdot (\text{MET Data})]$ , wherein  $W$  represents the relative weights given to corresponding matches or mismatches, and  $\text{Max}$  represents a process in which the result or score obtained from applying the foregoing algorithm to each record in said database is evaluated to determine the record with the greatest numerical value.

79. (New) The system of claim 78, wherein said observed signs data includes one or more of color, odor, chemical reaction, dispersion devices, explosive event, property damage, dead animals, or absence of signs, and wherein said observed symptoms data includes one or more of nausea, headache, tunnel vision, chest pain, vomiting, runny nose, reddish skin, or absence of symptoms.

80. (New) The system of claim 78, further comprising a sensor for obtaining agent detection data.

81. (New) The system of claim 78, further including a decision aid component operative to provide decision advice and decision prompts in response to the situation definition and time-dependent hazard assessment, wherein decision data are obtained through user response to the decision prompts.

83. (New) The system of claim 78, further including a training component response to the user interface component, clock, and time-dependent hazard assessment component.

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